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10/529,515	10/11/2005	Shi Su	B-5668PCT 622564-0	2407
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LADAS & PARRY			EXAMINER	
5670 WILSHIRE BOULEVARD, SUITE 2100			KIM, TAE JUN	
LOS ANGELES, CA 90036-5679				
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			3746	
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			10/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,515

Applicant(s)

SU ET AL.

Examiner

Ted Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,10-31,34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,10-31,34 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of claim 26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Fig. 1 is of poor line and print quality. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

3. Entry of New Fig. 2 is approved.

Response to Amendment

4. The amendment filed 08/20/2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The amendment of 08/20/2007 deleted "waste" before heat boiler. The original filed specification provides no other type of boiler which it could be, therefore, "waste" should be reinstated.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

5. Claim 17 is objected to because of the following informalities: "a compressor" should be —the compressor— claim 1 already sets forth the compressor. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6, 8, 11, 17-19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu (6,393,821) in view of Rostrup-Nielsen et al (6,109,018).

Prabhu teaches a system comprising a compressor 13 having an inlet stream and an outlet stream, a pre-heater 20 having a process inlet stream and a process outlet stream, a catalytic combustor 18 having an inlet stream and an outlet stream and containing an catalyst, and a turbine 14 having an inlet stream and an outlet stream, wherein, the outlet stream of the compressor 13 is connected to the process inlet stream of the pre-heater 20, the process outlet stream of the pre-heater is connected to the inlet stream of the catalytic combustor, and the outlet stream of the catalytic combustor is connected to the inlet stream of the turbine, and wherein, during operation of the system, the inlet stream of the compressor has a *substantially* constant and low concentration of fuel (note that each stream from 7, 8, 9, 10 is drawn off at a constant/selected fuel/air ratio – alternately, any of these streams may be mixed together with a controlled fuel/air ratio—alternately any of these streams may be mixed to a source of methane (col. 7, lines 34-47), which may be used to maintain turbine output and the blended stream of fuels has to have an appropriate energy content, i.e. regulated constant methane quantity, including substantially constant, alternately, note that the controller is inherently capable of maintaining a substantially constant methane quantity in order to maintain a substantially

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constant output); wherein the fuel comprises a gas with a methane concentration of 0.5 to 1.5 mole % (col. 6, lines 1+); wherein the fuel comprises a gas with a methane concentration of approximately 1 mole %; wherein the inlet stream of the turbine has a temperature of less than 800°C (1000 °F is much less than 800°C, see col. 8, lines 33+); further comprising a generator 16, which is connected to the turbine, wherein the generator converts the shaft work produced by the turbine into electrical energy. A system for providing fuel to drive a catalytic combustion gas turbine system, the system for providing fuel comprising a mixer (joining 7, 8, 9, 10 or unillustrated methane at col. 7, lines 34-47), having an outlet stream and at least two inlet streams and a compressor, having an inlet stream, the outlet stream of the mixer being connected to the inlet stream of the compressor, wherein, during operation of the system, the at least two inlet streams are controlled so that the outlet stream of the mixer has a substantially constant composition over time; wherein the outlet stream of the mixer has a concentration of methane of 0.5 to 1.5 mole %; wherein of the at least two inlet streams of the mixture, at least one inlet stream has a concentration of methane of 0 to 1.5 mole % and at least one other inlet stream has a concentration methane of over 20 mole % (e.g. includes substantially pure methane or landfill methane from col. 3, lines 62+); wherein at least one other stream of the at least two inlet streams of the mixer is a stream of coal mine drainage gas is clearly established; the fuel comprises at least some gas from an underground coal mine (col. 3, lines 16+, col. 4, lines 9-15. see the bottom of Fig. 1, where the source of methane is from a coal mine). Prabhu et al do not teach the catalyst

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is a honeycomb-type monolith catalyst. Rostrup-Nielsen et al teach a catalytic combustor 34 and a preheater 43, wherein the catalytic combustor has a maximum continuous bed surface temperature of 950°C (col. 14, lines 9-11); wherein the catalytic combustor is a honeycomb-type monolith reactor (col. 5, lines 1+, see Fig. 7 for the illustration of the triangular honeycomb-like channels of the monolith, also see Freeley et al (5,622,041) the paragraph bridging col. 5 and col. 6 for extrinsic evidence that such channels of Rostrup-Nielsen would be identified as a honeycomb type monolith); wherein the monolith is a ceramic (col. 12, lines 13+), which acts as a substrate for a wash coat slurry of base metals on which a noble metal catalyst is placed (col. 12, lines 55+); wherein the catalytic combustor has a combustion efficiency of greater than 99% -- this ranges is well known for catalytic combustors, note that unburned hydrocarbons are in the parts per million range (see Fig. 11b). It would have been obvious to one of ordinary skill in the art to employ the catalytic combustor arrangement of Rostrup-Nielsen, with a monolithic catalyst, substrate, and noble metal catalyst, as the typical catalyst structure used in the art for gas turbine combustors and/or in order to reduce unburned emissions during startup.

8. Claims 1-6, 8, 10-13, 15-19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu (6,393,821) in view of Rostrup-Nielsen et al (6,109,018), as applied above and further in view of in view of Lipinski et al. Prabhu teaches various aspects of the claimed invention but do not teach various details of the catalytic combustor nor the pressure of the compressor. Lipinski et al teach a microturbine with

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catalytic combustor 24 and a preheater/preburner 15 and a recuperator 22 which are adjacent to each other in Fig. 2. It would have been obvious to one of ordinary skill in the art to employ a preheater and recuperator, in order to enhance the efficiency of the system. As for them being integral, making things integral has been held to be within the ordinary skill in the art and it would have been obvious to one of ordinary skill in the art to make the preheater and recuperator integral, which has been held to be within the ordinary skill in the art. As for the pressure output from the compressor being less than 3.5 bar, Lipinski et al teach a pressure out of 3.8 bar and teaches that using lower pressures would result in higher efficiencies (col. 9, lines 55+). It would have been obvious to one of ordinary skill in the art to make the output pressure of the compressor less than 3.5 bar, in order to increase the thermodynamic efficiency.

9. Claims 17-20, 23, 26-28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Prabhu (6,393,821) or Prabhu (6,393,821) in view of Rostrup-Nielsen et al (6,109,018), as applied above, and further in view of either Rautenbach et al (6,595,001) and/or Gabrielson et al (5,216,876). Prabhu teaches coal mine gas can be used as the source of methane gas and that other man-made sources of methane gas are contemplated (col. 4, lines 9-15). Rautenbach et al teach a source of coal mine drainage gas 7' diluted with coal mine ventilation air (see Fig. 2 and col. 2, lines 55+). Gabrielson et al teach using coal mine ventilation gas (col. 4, lines 18-24) is directed to the compressor 2 of the gas turbine engine. It would have been obvious to one of ordinary skill in the art to employ coal mine drainage gas and ventilation gas, as the sources of

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methane in Prabhu, as well known methane sources that can have energy recovery. As for the reservoir connected to the mixer, the use of reservoirs to buffer fluctuations, is well known in the fluid flow art and would have been obvious to employ in order to dampen any fluctuations in the flow. As for combusting the process gas in the presence of a catalyst to a temperature of less than 800 °C, this is regarded as an obvious matter of using the workable ranges in the art for Prabhu. Note that the combustion temperature for methane and air can be calculated for a wide range of initial conditions, which are covered by the Prabhu disclosure. The maximum initial temperature is 1000 °F, and the initial temperatures should be kept significantly lower than this to avoid auto ignition. Note that the adiabatic flame temperature is the absolute highest temperature possible of the flame, in real world conditions, it will be less, due to heat losses or unburned fuels, etc. The adiabatic flame temperature for methane and air can be calculated for example on the following website,

http://www.engr.colostate.edu/~allan/thermo/page12/adia_flame/Flamemain.html.¹

By varying the initial conditions, it is clear that temperatures of less than 800 °C are well within the achievable range. It would have been obvious to one of ordinary skill in the art to vary the initial temperature of the process gas entering the combustor, to achieve the claimed range, as an obvious matter of finding the workable ranges in the art.

¹ Additional background-information on calculating the adiabatic flame temperature for methane and air can be found at http://en.wikipedia.org/wiki/Adiabatic_flame_temperature

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10. Claims 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu (6,393,821) in view of Rostrup-Nielsen et al (6,109,018), as applied above, and further in view of Teller (3,957,464) and/or Tarnacon (5,407,647). Prabhu teaches various aspects of the claimed invention but do not teach the use of a scrubber for removing particles and sulphur compounds, including hydrogen sulfide and sulfur dioxide. Teller teaches using scrubbers for removing particulates greater than and equal to 0.5 microns is well known in the art (col. 4, lines 3+). It would have been obvious to one of ordinary skill in the art to remove the particulates in a scrubber, to purify the fuel gas and prolong the life of the gas turbine system. Tarancon teaches that scrubbers remove both hydrogen sulfide and sulfur dioxide (col. 1, lines 15-30) with reduction of both of these impurities to essentially zero, i.e. 99.99 to 99.999% reduction of the impurities, see col. 9, lines 11-19). Alternately, applicant's claimed ranges can be regarded as an obvious matter of finding the workable ranges in the art. It would have been obvious to one of ordinary skill in the art to employ the scrubbers to reduce the particulates and sulfur content, in order to purify the gases and prolong of the life of the gas turbine system.

11. Claims 17-20, 23, 26-28, 29, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Prabhu (6,393,821) or Prabhu (6,393,821) in view of Rostrup-Nielsen et al (6,109,018), in view of either Rautenbach et al (6,595,001) and/or Gabrielson et al (5,216,876), as applied above, and further in view of Lipinski et al. Prabhu teaches various aspects of the claimed invention but do not teach the pressure

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output from the compressor being less than 3.5 bar. Lipinski et al teach a pressure out of 3.8 bar and teaches that using lower pressures would result in higher efficiencies (col. 9, lines 55+). It would have been obvious to one of ordinary skill in the art to make the output pressure of the compressor less than 3.5 bar, in order to increase the thermodynamic efficiency.

12. Claims 21, 22, 24, 25, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu (6,393,821) in view of Rostrup-Nielsen et al (6,109,018) and either Rautenbach et al (6,595,001) and/or Gabrielson et al (5,216,876), as applied above, and further in view of Teller (3,957,464) and/or Tarnacon (5,407,647). Prabhu teaches various aspects of the claimed invention but do not teach the use of a scrubber for removing particles and sulphur compounds, including hydrogen sulfide and sulfur dioxide. Teller teaches using scrubbers for removing particulates greater than and equal to 0.5 microns is well known in the art (col. 4, lines 3+). It would have been obvious to one of ordinary skill in the art to remove the particulates in a scrubber, to purify the fuel gas and prolong the life of the gas turbine system. Tarancon teaches that scrubbers remove both hydrogen sulfide and sulfur dioxide (col. 1, lines 15-30) with reduction of both of these impurities to essentially zero, i.e. 99.99 to 99.999% reduction of the impurities, see col. 9, lines 11-19). Alternately, applicant's claimed ranges can be regarded as an obvious matter of finding the workable ranges in the art. It would have been obvious to one of ordinary skill in the art to employ the scrubbers to reduce the

particulates and sulfur content, in order to purify the gases and prolong of the life of the gas turbine system.

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of the above Prabhu (6,393,821) combinations, as applied above, and further in view of Bell (4,936,088). Prabhu does not teach the use of a boiler. Bell teaches a boiler recovering energy 22 from the turbine outlet stream. It would have been obvious to one of ordinary skill in the art to employ a steam generator, to facilitate recovering heat from the exhaust gas that would otherwise be wasted.

Response to Arguments

14. Applicant's arguments filed 08/20/2007 have been fully considered but they are not persuasive. Applicant's arguments concerning Prabhu and Rostrup-Nielsen are not persuasive arguing that Rostrup-Nielsen do not have a honeycomb type monolith using a word search of that reference. However, this analysis is flawed as Fig. 7 of Rostrup-Nielsen shows a honeycomb type monolith structure. Moreover, Freeley et al (5,622,041) in the paragraph bridging col. 5 and col. 6 provides extrinsic evidence that such channels of Rostrup-Nielsen would be identified as a honeycomb type monolith.

"The carrier on which the catalyst composition is carried is typically a **monolith** having a plurality of fine gas flow passages extending therethrough, to provide a **honeycomb-type** structure. The gas flow passages (sometimes referred to as "cells") in the **honeycomb** structure are substantially parallel and defined by thin walls, and may be of any desired cross section such as square, rectangular, triangular or hexagonal shape.

The number of channels per square inch of face surface, i.e., per cross-sectional square inch (cpsi), may vary, depending upon the particular application for which the catalyst bed is to be used. Such **honeycomb-type** carriers are commercially available having anywhere from about 9 to 600 or more cpsi. The substrate or carrier monolith desirably is porous and may (but need not) be relatively catalytically inert to the combustion reaction as compared to the active layers used in the invention. (Freeley et al, the paragraph bridging col. 5 and col. 6)"

Hence, applicant's "word search" analysis is clearly inadequate as the teachings of Rostrup-Nielsen are those to what they would teach one of ordinary skill in the art.

Applicant's arguments that Prabhu does not teach the fuel comprises at least some gas from an underground coal mine are clearly erroneous. Prabhu clearly shows on the bottom of Fig. 1, where the source of methane is from a coal mine fuel comprises at least some gas from an underground coal mine. Further support from the specification on (col. 3, lines 16+, col. 4, lines 9-15) makes it clear that all man-made sources of methane are contemplated including the coal mine gas of col. 3, lines 16+.

1. Note that MPEP 2123 sets forth:

I. < PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.); *cert. denied*, 493 U.S. 975 (1989). See also

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Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.").

>

II. < NONPREFERRED >AND ALTERNATIVE< EMBODIMENTS CONSTITUTE PRIOR ART

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.).

>Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed.." *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).<

15. Applicant's arguments with regard to the 103 rejections fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. They only allege that the examiner has not made a *prima facie* case without any evidence to support the allegations.

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16. With respect to applicant's arguments concerning Prabhu and combusting the process gas in the presence of a catalyst to a temperature of less than 800 °C, this is regarded as an obvious matter of using the workable ranges in the art for Prabhu. Note that the combustion temperature for methane and air can be calculated for a wide range of initial conditions, which are covered by the Prabhu disclosure. Note that the adiabatic flame temperature is the absolute highest temperature possible, in real world conditions, it will be less, due to heat losses or unburned fuels, etc. The adiabatic flame temperature for methane and air can be calculated for example on the following website, http://www.engr.colostate.edu/~allan/thermo/page12/adia_flame/Flamemain.html.

By varying the initial conditions, it is clear that temperatures of less than 800 °C are well within the achievable range. It would have been obvious to one of ordinary skill in the art to vary the initial temperature of the process gas entering the combustor, to achieve the claimed range, as an obvious matter of finding the workable ranges in the art.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax number for the organization where this application is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at 571-272-4828. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>

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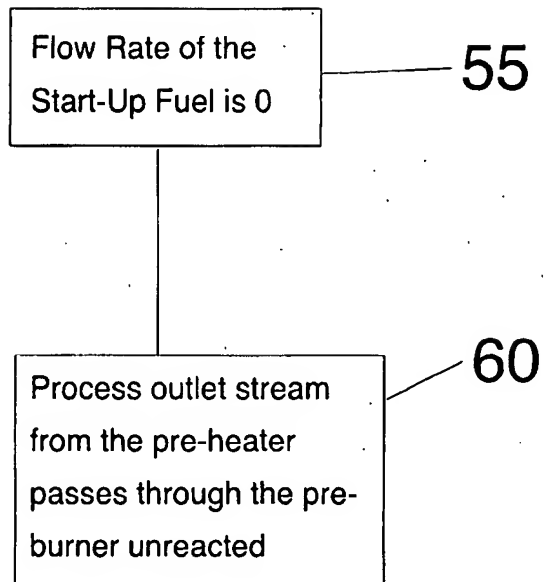


Figure 2

Entry Approved

JL

9/25/07